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FINAL EXAMINATION

TRIMESTER 1, 2018/2019

DCS5018 – COMPUTER SYSTEMS & APPLICATIONS
(For Diploma students only)

17 OCTOBER 2018
9:00 a.m. – 11:00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of **5 pages** excluding cover page.

2. Answer **ALL** questions in **Section A** on the **OMR sheet**.

3. Answer **ALL** questions in **Section B** in the **Answer Booklet**.

Section A : 20 Multiple Choice Questions (20 marks)

*Instruction: Shade your answers on the **OMR** sheet.*

1. Which of the following is the result of data processing?
   - A. Data
   - B. Input
   - C. Information
   - D. Output

2. Which of the following is **NOT** an example of application software?
   - A. Adobe Photoshop
   - B. Audicity
   - C. Linux
   - D. Gmail

3. Who are the individuals that are involved in the development of the internet?
   - A. Nikola Tesla & Samuel Morse
   - B. Vinton Cerf & Robert Kahn
   - C. Rudolf Diesel & Humphry Davy
   - D. Herman Hollerith & Henry Bessemer

4. Below shows a URL for a video on YouTube.com. Identify the component of the URL that marked (i).

   (i)

   https://www.youtube.com/watch?v=CE-JlvmnRtY

   - A. Path
   - B. Domain name
   - C. Top-level domain
   - D. Protocol

5. Which of the following **BEST** describe the below statement?

   "Vendor hosts the software online and user access and use the software over the internet without having to install it on user's computer."

   - A. Off-the-shelf software
   - B. Software as a Service
   - C. System software
   - D. Specialized software

6. Which of the following is/are the guidelines in producing a good presentation?
   - I. Use images
   - II. Use appropriate colours
   - III. Use bullet for key points
   - IV. Keep animation and background audio to the maximum

   - A. I & II
   - B. II & III
   - C. I, II, III
   - D. All of the above

Continued...

7. What is the type of operating system used for machinery and that requires minimal user interaction?

    A.   Real time   C.   Interactive

    B.   Cloud-based   D.   Distributed

8. Below are the actions that can be taken when facing error during the boot process, **EXCEPT**:

    A. Refresh the computer

    B. Install different software while keeping the same existing software

    C. Boot with Last Known Good Configuration option

    D. Uninstall recently installed software

9. What are the things that need to be considered in order to have an ideal computing device?

    I.   Speed

    II.   CPU capacity

    III.   System components

    IV.   Hard drive storage capacity

    A.   I & II   C.   II, III, IV

    B.   III & IV   D.   All of the above

10. _____ store data as tiny pits that are burned into the disc by a high-speed _____.

    A. Optical discs, optical light

    B. Optical discs, laser

    C. Solid-state drives, optical light

    D. Solid-state drives, laser

11. Network architecture can be classified according to:

    I.   The distance between their nodes.

    II.   The way in which they are managed (or administered).

    III.   The set of rules (or protocol) used to exchange data between network nodes.

    IV.   The communications medium used to transport the data.

    A.   I & II   C.   II, III, IV

    B.   I, II, III   D.   All of the above

12. The below standard define wireless communication **EXCEPT**.

    A.   IEEE 802.3   C.   IEEE 802.15

    B.   IEEE 802.11   D.   IEEE 802.16

13. Which of the following statement is **TRUE**?

    A.   3G brought mobile device data-transfer rates as high as 3.8 Mbps.

    B.   4G can provide mobile connection speeds of up to 4.8 Mbps

    C.   3G has more susceptible interference than WiFi

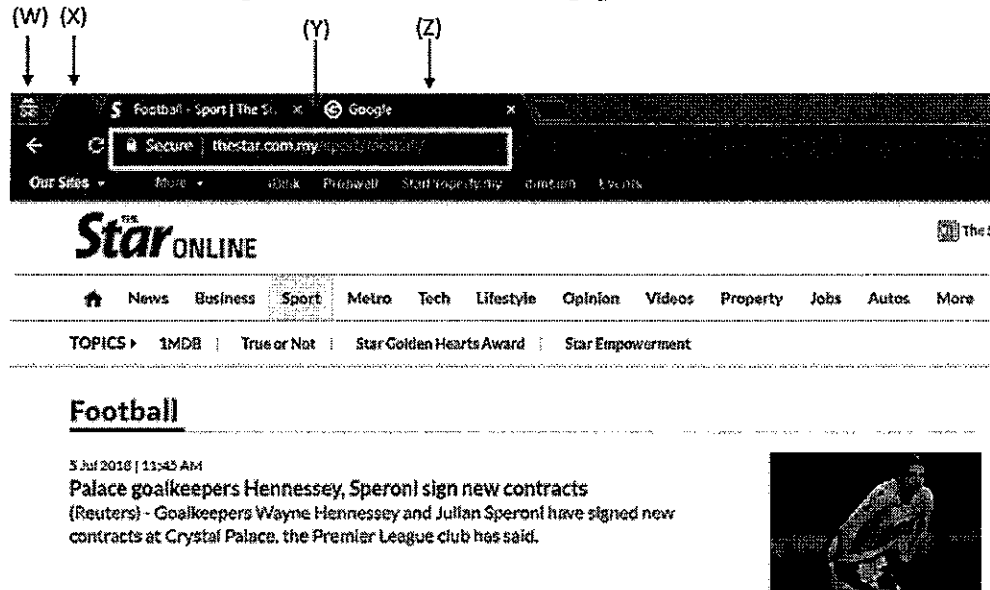   D.   4G LTE has better data-transfer rates than true 4G.

Continued...

14. Most common format that used within digital photography are
    I.   Raw Uncompressed Data (RAW).
    II.   Windows Media Audio (WMA).
    III.   MPEG Layer III (MP3).
    IV.   Joint Photographic Experts Group (JPEG).

    A.   I, and II only.   C.   II, III, and IV
    B.   I, and IV   D.   All of above.

15. _____ changes its own code or periodically rewrites itself to avoid detection.
    A.   Polymorphic virus   C.   Stealth virus
    B.   Multipartite virus   D.   Worm

16. An attack that renders a computer unable to respond to legitimate users because it is being bombarded with data requests is known as _____ attack.
    A.   Scareware   C.   Denial-of-service
    B.   Stealth   D.   Time bomb

17. A second-generation language (2GL) is also known as _____ .
    A.   Database Query Language   C.   Machine language
    B.   Assembly language   D.   Web development language

18. Purpose to insert a comment in a program code is
    A.   To translate the program code to assembly language
    B.   To connect the code with database.
    C.   To accelerate the compilation of code
    D.   To explain the purpose of section code

19. In business intelligence systems, TPS is an abbreviation for _____ .
    A.   Transaction Purchase System   C.   Transaction Processing System
    B.   Transport Tunnel System   D.   Tunneling Private System

20. Which of below option is **NOT** a main operation of a Database Management Systems.
    A.   Sorting Data   C.   Extracting Data
    B.   Outputting data   D.   Interjection Data

Continued...

Section B: 4 Structured Questions (80 marks)
Instruction: Write your answers in the Answer Booklet.

Question 1 (Total: 20 Marks)

(a) Give **FIVE (5)** examples of input devices and output devices.   (5 marks)

(b) Based on below figure, answer the following questions:

(W) (X)   (Y)   (Z)

i.   Explain what is a web browser.   (2 marks)
ii.   What can a graphical browser display?   (4 marks)
iii. Identify *(W)*, *(X)*, *(Y)*, *(Z)*.   (4 marks)

(c) Explain what is an open source software and list down **THREE (3)** examples of open source software.   (5 marks)

Question 2 (Total: 20 Marks)

(a) System software is one of the essential component in order to run a computer. Based on this statement, answer the following questions:

i.   State **TWO (2)** basic types of system software   (2 marks)
ii.   Based on question (i), explain each type of system software. (2 marks)
iii. Give **TWO (2)** example for each system software.   (4 marks)

(b) The boot process is a process of starting a turned off computer. List down the steps in boot process and briefly explain each step.   (8 marks)

(c) There are many different types of hard drive. State **FOUR (4)** characteristics of Mechanical Hard Drive   (4 marks)

Continued...

Question 3 (Total: 20 Marks)

(a) Describe any **THREE (3)** type of Network Architecture which defined by distance? (6 marks)

(b) When you speak into a cell phone, a series of steps occur. Describe **THREE (3)** steps of this process. (6 marks)

(c) Najwa is planning to create a strong password for her online banking login. Give **FOUR (4)** comments on the password given below. (8 marks)

22Pen@22me

Question 4 (Total: 20 Marks)

(a) List the **SIX (6)** steps in Software Development Life Cycle (SDLC). (6 marks)

(b) What are the tools required to build an Android device application? (6 marks)

(c) Describe any **TWO (2)** of the database main components. (4 marks)

(d) List out **FOUR (4)** criteria of a good primary key in a database. (4 marks)

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